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October 30, 2013

Mr. Donald Graham, On-Scene Coordinator
U.S. Environmental Protection Agency
Removal Action Branch
2890 Woodbridge Avenue
Edison, NJ 08837

EPA CONTRACT No.: EP-W-06-072
TDD No.: TO-0029-0030
DOCUMENT CONTROL No.: RST 2-02-F-2525

SUBJECT: COMMUNITY AIR MONITORING PLAN, E.C. ELECTROPLATING, 125 CLARK STREET, GARFIELD, BERGEN COUNTY, NEW JERSEY

Dear Mr. Graham,

Enclosed please find the Community Air Monitoring Plan (CAMP) for air monitoring to be performed in support of the Removal Action at the E.C. Electroplating Site located at 125 Clark Street in Garfield, Bergen County, New Jersey. Site activities are anticipated to commence in October 2013 and are expected to continue for approximately four months.

If you have any questions or comments, please do not hesitate to contact me at (908) 570-5022.

Sincerely,

Weston Solutions, Inc.

Joel Siegel
RST 2 Site Project Manager

Enclosure
cc: TDD File No.: TO-0029-0030

Community Air Monitoring Plan for Environmental Services/ Removal Action

US EPA, Region II Removal Action

Site:

E.C. Electroplating
125 Clark Street
Garfield, Bergen County, New Jersey

Prepared for:

US EPA, Region II – Removal Action Branch
2890 Woodbridge Avenue
Edison, NJ 08837

Prepared by:

Removal Support Team 2
Weston Solutions, Inc.
1090 King Georges Post Road, Suite 201
Edison, NJ 08837

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Author: Joel Siegel

Title: RST 2 Site Project Manager

Date: October 30, 2013

Reviewer: Timothy Benton

Title: RST 2 Operations Leader

Date: October 30, 2013

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1.0 INTRODUCTION

This Site-Specific Community Air Monitoring Plan (CAMP) presents the monitoring strategies and analytical methods which will be used to monitor dust that may be generated during the Removal Action activities at the E.C. Electroplating Site (the Site) located at 125 Clark Street in Garfield, Bergen County, New Jersey. Removal Action activities are expected to occur over a 4-month period beginning in October 2013 and include the removal and disposal of hazardous waste including the building slab, basement walls, and soil.

This Site Specific CAMP describes the protocol for perimeter and community air monitoring. Air monitoring will include direct-reading particulate monitors and sample pumps mounted at stationary locations. The direct-reading instrumentation will be used to compare the airborne concentration of particulates against established Action Levels. Air samples will be collected and analyzed for hexavalent chromium, total chromium, antimony, lead, and cadmium, as necessary.

The United States Environmental Protection Agency (EPA) On-Scene Coordinator (OSC) will determine the location of the monitoring equipment based on daily operations. Daily weather information will be obtained from Weather Underground (www.wunderground.com) and a portable meteorological station located at the Site. The weather information obtained will be used to determine optimum monitoring locations.

2.0 PERIMETER AND COMMUNITY AIR MONITORING

2.1 Purpose

Perimeter air monitoring will be performed along the perimeter of the Site during Removal Action and demolition activities to monitor and document that Site activities do not generate particulates above Site-Specific Action Levels at the Site boundaries. Community air monitoring will be performed during demolition activities to assess the potential release of contaminants to the community. In the event that dust concentrations exceed the Site-Specific Action Levels, on-site activities will be temporarily suspended so that additional dust suppression and mitigation measures can be performed.

2.2 Monitoring Methods

Real-time particulate air monitors (*e.g.*, DataRam or equivalent) equipped with PM_{10} (particulate matter smaller than 10 microns in diameter) impactors will be used to monitor dust levels throughout the duration of the project. The monitors will be operated each workday and will measure PM_{10} dust concentrations in real time. The monitors are calibrated by the equipment manufacturer prior to being used at the Site. When the monitors are turned on daily, the instrument is self-calibrating and will be zeroed by the perimeter air monitoring technician. Once turned on, the monitors record dust concentrations on a 15-minute time-weighted average (TWA). Ambient conditions (temperature and humidity) will be obtained from Weather Underground (www.wunderground.com) and an on-site portable meteorological station, and recorded daily in the Site logbook.

In addition to real-time dust monitoring, each monitoring station will be equipped with two low flow personal air sampling pumps (SKC PCXR8 programmable pump or equivalent) for sample collection. Air samples will be collected in accordance with Occupational Safety and Health Administration (OSHA) Method ID-215, (version 2) for hexavalent chromium and by NIOSH Method 7300 for antimony, lead, cadmium, and total chromium. Air samples for hexavalent chromium will be collected using a 37-millimeter diameter polyvinyl chloride (PVC) filter (5-micrometer [µm] pore size) housed in a polystyrene cassette filter holder at flowrates between 1 and 4 liters per minute (L/min). The air samples for antimony, lead, cadmium, and total chromium will be collected in a similar cassette, except with a mixed cellulose ester (MCE) filter (0.8 µm pore size). Air samples will be collected daily at all perimeter and community air monitoring locations. An air sample will be analyzed for hexavalent chromium, antimony, lead, cadmium, and total chromium if the PM_{10} Site-Specific Action Level is exceeded for a 15 minute period at that particular monitoring location. Samples prior to the Removal Action will be collected to determine background readings in the community. The samples will be analyzed in accordance with OSHA Method ID-215 and NIOSH Method 7300.

The personal air sampling pumps will be calibrated daily, both prior to and after the sampling event, to determine the average flow rate and whether the pump functioned correctly during the sampling event. A post-calibration measurement greater than 10 percent from the pre-calibration measurement indicates that the sampling pump malfunctioned and the sample will be considered invalid. The sampling media will be attached to the sampling pump during both the pre-and post-calibration. A BIOS Dry Cal meter (or equivalent) will be used to calibrate the air sampling pumps. Three successive readings will be used, and then averaged to determine the flow rate during each calibration effort. Both the pre-and post-calibration values will be annotated in the Site logbook.

The monitoring stations will be checked periodically throughout each workday when Removal Action activities are being performed to determine if dust levels have exceeded the Site-Specific Action Level. Instrument readings and visual observations from these inspections will be manually recorded in the Site logbook. The data will be downloaded from each DataRam or equivalent at the end of each workday and archived as part of the Site file.

2.3 Monitoring Locations

Up to four monitoring stations will be located at the boundaries of the Site and one monitoring station will be located at the Roosevelt Elementary School on Lincoln Place. Based on site conditions, the number of monitoring stations may be increased per EPA OSC direction. Each monitoring station will include a real-time, direct-reading dust monitor and two sample pumps placed in a waterproof case and secured to a tripod. The inlet ports of the dust monitor and air samplers will be located at a height of approximately 4 to 6 feet above the ground surface (approximate breathing level) at an unobstructed location.

The monitoring stations will be set up at the start of each workday and removed at the end of each workday, and taken back to the Command Post where the data will be downloaded. Monitoring locations will be selected based on local daily weather conditions and, at a minimum, will include one location upwind of the Site and one location downwind of the Site.

2.4 Frequency of Monitoring and Sampling

The air monitors will be operational each day when Removal Action activities are performed at the Site, weather permitting. Air samples will be collected daily at all perimeter and community air monitoring locations. An air sample will be analyzed for hexavalent chromium, antimony, lead, cadmium, and total chromium if the PM_{10} Site-Specific Action Level is exceeded for a period of 15 minutes at that particular monitoring location. Removal Action activities may not continue during periods of severe weather conditions, which would also result in the temporary suspension of the air monitoring program. At the discretion of Site personnel and due in part to safety concerns and equipment integrity issues, the air monitoring equipment may need to be shutdown and protected during precipitation events.

2.5 Non-working Hours

Each working day air monitoring will continue for one hour after Removal Action activities cease to ensure there is no offsite migration of contaminants before the crew leaves the Site. No monitoring activities will be conducted during non-working hours. No release of contaminants, above background levels, is anticipated during non-working hours.

3.0 ACTION LEVELS

The Site-Specific CAMP for the Site consists of a combination of perimeter and community monitoring for particulates (dust), hexavalent chromium, antimony, lead, cadmium, and total chromium. Table 3-1 outlines the Site-Specific Action Levels and response activities to be followed during the project. Hexavalent chromium is the main contaminant of concern. The EPA risk level of 0.06 μg/m x 10^{-3} will be used in the calculation to determine the Site-Specific Action Level.

Table 3-1: Community Air Monitoring Action Levels and Response Activities

Parameter	Monitoring Location and Interval	Action Level	Response Activity
Dust (PM_{10})	Perimeter and community monitoring locations with dust readings every 60 seconds, calculate 15-minute average during Removal Action activities.	≥ 0.015 mg/m^3 Early warning alert level	• Continue monitoring. • Continue dust suppression measures. • Notify field crew that early warning alert level has been reached.
		< 0.030 mg/m^3	• Continue monitoring. • Continue dust suppression measures.
		≥ 0.030 mg/m^3	• Cease activities; re-evaluate dust suppression measures. • Analyze collected air sample for hexavalent chromium. • If during transport and

			disposal of hazardous waste task, commence community air monitoring.

Notes:
CAMP – Community Air Monitoring Plan
PM_{10} – particulate matter smaller than 10 microns
mg/m^3 – milligrams per cubic meter

A dust concentration, measured by the PM_{10} concentration, of 0.030 mg/m^3 has been established as the Site-Specific Action Level for this Site-Specific CAMP. This Site-Specific Action Level was calculated using the following equation, which calculates a corresponding PM_{10} action level for contaminated dust for worker exposure limit based on the EPA Risk Level and contaminant concentration on Site, then dividing the result by a safety factor.

$$PM_{10}\ \text{Action Level}\ (mg/m^3) = \frac{(10^6\ mg/kg)(\text{EPA Risk Level})}{(\text{Concentration}\ mg/kg)(\text{Safety Factor})}$$

Where:

10^6 mg/kg = conversion factor
EPA Risk Factor for hexavalent chromium and cadmium = 0.06 x 10-3 $\mu g/m^3$
Concentration = highest concentration detected at the Site (1,000 milligrams per kilograms [mg/kg])
Safety Factor = degree of confidence of concentration, 1 being very confident and 10 being not confident

$$PM_{10}\ \text{Action Level}\ (mg/m^3) = \frac{(10^6\ mg/kg)(0.06 \times 10\text{-}3\ \mu g/m3)}{(65{,}800\ mg/kg)(2)}$$

$$= 0.030\ mg/m^3$$

The calculated Site-Specific Action Level is conservative and assumes that the Site contaminants (hexavalent chromium and cadmium) will be present in airborne dust at the highest concentration detected in Site soils (1,000 mg/kg). If dust levels exceed 0.030 mg/m^3, operations that are directly generating dust in the area of the impacted monitoring station will be temporarily discontinued until dust mitigation action can be performed. An early warning alert level of 0.015 mg/m^3 (one half of the Action Level) has been established for the Site. If this alert level is reached, the field crew will continue work and dust suppression, and be notified that the work is generating minimal dust.

4.0 REPORTING OF AIR MONITORING RESULTS

4.1 Community Notification Procedures

The specific community notification procedures will be at the discretion of the EPA OSC. The exact notification procedures will be developed based on the most feasible means of getting information to the surrounding community in an effective, useful, and timely manner.

4.2 On-Site Reporting Procedures

The Site Health and Safety Representative will maintain a sample log and report airborne levels on a daily basis to the EPA OSC. Elevated results (*i.e.*, above Site-Specific Action Levels) will be reported immediately to the EPA OSC so appropriate engineering controls can be implemented to reduce airborne levels.

4.3 Reporting Procedures

Sampling will be performed by the EPA's Removal Support Team 2 (RST 2). RST 2 will be responsible for informing the EPA OSC the monitoring results to comply with EPA's Risk Assessment level.

Whenever the results indicate that an air samples exceeds the hexavalent chromium Risk Level (the most conservative of all compounds being sampled for at the Site), the EPA OSC shall notify on-site personnel and provide a description of the corrective action taken to reduce exposure to a level below the Risk Level. Results of monitoring for other hazardous and harmful physical agents shall also be reported in the same manner.

4.4 Reporting Procedures for the Analytical Laboratory

Chain-of-custody procedures will be followed during sample handling and transport to the accredited laboratory. Areas sampled, tasks performed, duration, volumes, and laboratory results will be provided in a letter report format within two weeks of receiving the sample analysis results. Sampling and analysis will be performed in accordance with the appropriate OSHA or NIOSH method under the direction of the EPA OSC.

Calculations to determine the action level or ceiling concentration results will be performed as needed to allow for comparison to applicable OSHA PELs or American Conference of Governmental Industrial Hygienists threshold limit values. All monitoring results will be available for review upon receipt from the laboratory.

4.5 Data Review and Interpretation

The general public will be able to review the captured data for the Site once the air monitoring data has been validated and finalized, and based upon the EPA OSC's authorization for release of the information. Monitoring records will be maintained on site.